



IDEM's Surface Water Quality Assessment Program

Fish Tissue Contaminant Monitoring Program

Program Objective

The object of this program is to provide information on chemical contaminants that may be accumulating in the tissues of fish. This type of monitoring helps to locate sources of contaminants whose concentrations in other environmental media (such as water) are often too low to be easily found with routine sampling and laboratory procedures. The fish tissue contaminant monitoring program provides the majority of data used for Indiana's Fish Consumption Advisories (FCA) for the protection of consumers of sport caught fish. In addition this information can be used for wildlife health risk assessments for fish-eating birds and mammals; and to provide information needed to develop models to assess changes in Indiana waters that affect aquatic life and human health.

Program Participants

The Biological Studies Section of the Assessment Branch, Office of Water Quality, operates this program. Contract laboratory services are utilized for contaminant levels determination. Decisions on fish consumption advisories are made through an Interagency Workgroup consisting of participants from IDEM, the Indiana State Department of Health (ISDH), and the Indiana Department of Natural Resources (IDNR). Fish consumption advisories are issued through the ISDH.

Program Description

Media:	Fish from the surface water of rivers, streams, reservoirs and lakes
Study Area:	Statewide
Site Selection Type:	Historically, a targeted site selection based on need for information, follow-up monitoring, or regular biennial revisits. Program is also now implementing a fish tissue collection portion into the stratified probability based sampling program of the Surface Water Quality Monitoring Strategy (see Fact Sheet <i>Watershed Monitoring Program</i>) to better understand basin wide and regional contaminant levels and trends.
Sampling Sites:	Continued targeting of sites on rivers, lakes, and reservoirs; emerging problem areas of the state; and water bodies never before monitored; regular revisit to 20 designated CORE river locations and near shore Lake Michigan; based on a probabilistic draw in wadable streams (see Fact Sheet <i>Watershed Monitoring Program</i>).
	Sampling Frequency: 5 year basin rotations for entire State (see : http://www.state.in.us/idem/owm/assessbr/master_swqms7.pdf)
Data Collected:	Chemical contaminant levels in fish flesh

As a member of the Ohio River Valley Water Sanitation Commission (ORSANCO), Indiana contributes in giving ORSANCO the responsibility of monitoring fish tissue contaminants in the Ohio River.

As a Great Lakes State, Indiana also participates in the annual Great Lakes Fish (tissue) Monitoring Survey in southern Lake Michigan sponsored by the Great Lakes National Program Office (GLNPO) U.S. Environmental Protection Agency (U.S. EPA). This is the 21st year of Indiana's participation in this program. In alternating years coho and chinook tissue samples are collected by IDNR for tissue contaminant analysis. A lab selected by GLNPO analyzes these samples. The results are reported by GLNPO to the participating states.

Indiana continues to participate in a four year National Study of Chemical Residues in Lake Fish Tissue. The U.S. EPA Office of Science and Technology (OST) is coordinating this national effort. It utilizes a probability based survey design (random selection) to select lakes for sampling. Its objective is to estimate the national distribution and extent of the average levels of some of our most common persistent bioaccumulative chemicals in fish tissue from lakes and reservoirs of the continental United States. The design to be used in this study is based on designs developed by the Environmental Monitoring and Assessment Program (EMAP) of U.S. EPA (see: <http://www.epa.gov/emap/>). A number of specific questions will be addressed in the sample design. Field collections for this project are expected to take four years. Indiana has eleven lakes identified for sampling, which will be spread over the four years as determined by the sampling design. The U.S. EPA will pay all laboratory costs.

Program Product(s)

- ▶ *Indiana's Fish Consumption Advisory.*
- ▶ Use support designations of Indiana waters for Section 305(b) Report
- ▶ Assessments for Section 303(d) List of Impaired Waters in Indiana.
- ▶ Periodic technical reports on contaminant levels and trends.
- ▶ Support of the Environmental Performance Partnership Agreement (EnPPA) between Indiana and U.S. EPA.
- ▶ Support of Indiana's Remedial Action Plan for the Northwest Indiana Area of Concern.
- ▶ Support of the Lake Michigan Lakewide Area Management Plan.

Technical Notes

Contaminants analyzed for includes a number of metals (23) including cadmium, lead, and mercury, organochlorine pesticides (27) such as DDT, chlordane, and dieldrin, and total polychlorinated biphenyls (PCBs). Additional contaminants such as polycyclic aromatic hydrocarbons (PAHs) (18), semivolatile (47), volatile (33) compounds, congeners of PCBs and dioxins, and tributyl tin may be analyzed for when industrial, municipal, and/or other source pollution is suspected.

Information Contacts

James R. Stahl, Senior Environmental Manager
Indiana Department of Environmental Management
Office of Water Quality – Shadeland 65-40-2
Assessment Branch/Biological Studies Section
P.O. Box 6015
Indianapolis, IN 46206-6015
(317) 308-3187
E-mail: jstahl@dem.state.in.us

Steven A. Newhouse, Senior Environmental Manager
Indiana Department of Environmental Management
Office of Water Quality – Shadeland 65-40-2
Assessment Branch/Biological Studies Section
P.O. Box 6015
Indianapolis, IN 46206-6015
(317) 308-3186
E-mail: snewhous@dem.state.in.us

<p>IDEM Information: (317) 233-1044 or 800-451-6027 800-743-3333(TDD) toll-free for Indiana residents</p> <p>EnviroLine: (317) 232-8603 or 800-451-6027 toll-free for Indiana residents</p> <p>Fax on Demand: 800-726-8000</p> <p>Internet: www.state.in.us/idem</p>	<p><u>For More Information on IDEM's Office of Quality...</u></p> <p>Assessment Branch (Surface water quality: river, streams and lakes) Shadeland Office, Indianapolis (317) 308-3173</p> <p>Permitting Branch (NPDES permits) Indiana Government Center North, Indianapolis (317) 232-8675</p> <p>Compliance Branch (facilities assistance, inspections and compliance) Indiana Government Center North, Indianapolis (317) 232-6770</p> <p>Drinking Water Branch (Public water supply and ground water protection) Shadeland Office, Indianapolis (317) 308-3280</p> <p>Planning & Restoration Branch (Water quality standards/rules, grants and loans) Indiana Government Center North, Indianapolis (317) 233-8488</p>
--	---